

REMARKS

Reconsideration in view of the foregoing amendments and following remarks is respectfully requested.

The Examiner rejects claims 21, 46-48, 51-54 and 57-65 as being anticipated by Drasler, et al., USP 5,496,267. The Examiner asserts that the reference discloses a water jet atherectomy device (FIG. 4) having a first tube 174 within a second tube, a jet body 161 with a jet emanator, at least one outflow orifice 170 and at least one inflow orifice 172. The Examiner is incorrect. Item 170 of '267 is defined as an evacuation port at column 7, line 7, and item 172 is defined as an evacuation lumen at column 7, line 6. Further, the evacuation port 170 is an entrance or "port" through which ablated particulate matter enters into evacuation lumen 172, described at column 7, lines 6-7. Thus, while evacuation port 170 of '267 could be compared to inflow means or inflow orifices of the present invention, evacuation lumen 172 of '267 is not at all similar to outflow means or outflow orifices of the present invention. Evacuation lumen 172 of '267 could be compared with tube 137 of the present invention, but is different because evacuation lumen 172 of '267 provides for removal of debris from the body, while tube 137 of the present invention does not. The direction and orientation of fluid flow is not even the same: evacuation lumen 172 of '267 has particulate debris flowing from the body vessel (after passing in through evacuation port 170) in a proximal direction through the catheter and out of the body, while outflow orifice 32 has fluid and macerated thrombus passing outward into the body vessel. The structure provided in figure 4 of '267 is different from the present invention, and does not provide the same function as the present invention.

The exhaust lumen 172 of '267 would need to have a region of elevated pressure provided by entrainment of fluid through inflow orifice(s) and would need to have outflow orifice(s) located at this region of elevated pressure for fluid and thrombus debris to pass out into the body vessel to create cross stream jets; the structure and feature and function of outflow orifice(s) located in the exhaust lumen is not anticipated by the '267 patent. The '267 device is a high pressure device intended primarily for breaking up hard, calcified plaque. The feature of cross stream jets as provided by the present invention would have little effect on such hard material, but will aid in removal of softer material such as thrombus as intended with the present invention. Any outward jets which had sufficient velocity and cutting ability to significantly affect calcified plaque would surely cause undesired injury to the blood vessel if directed toward the blood vessel wall. In summary, the unique features, structures, and function of the present invention as claimed are not anticipated by or obvious from reading of Drasler, et al., USP 5,496,267. Applicants, therefore, request reconsideration of claims 21, 46-48, 51-54 and 57-65.

Applicants acknowledge Examiner's withdrawal of claims 49, 50, 56, 66, and 67 as being drawn to a nonelected species. However, Applicants feel that claims 55 and 68-70 read on the elected species. The description of FIGS. 18-19, which illustrate the elected species E as designated by the Examiner, includes the features claimed in claims 55 and 68-70, as follows. At page 46, lines 11-16, multiple jets as claimed in claim 55 are described. At page 44, lines 18-19, thrombus debris removal through separate means as claimed in claims 68 and 70 is described. Exhaust

regulation means as claimed in claim 69 is cited at pag 16, lines 13-22, and elsewhere, and could be utilized with the elected species if a separate tubular means were provided for debris removal. Applicants, therefore, request reconsideration of claims 55 and 68-70.


Claims 21, 46-48, 51-55, 57-65 and 68-70 are drawn to a thrombectomy device and system. Claims 51 and 65 have been amended to clarify the claims and address the section 112 rejections. Claims 68 and 70 have been amended to be more consistent with the terminology used in the description. No new matter has been introduced.

If there are any further issues yet to be resolved to advance the prosecution of this patent application to issue, the Examiner is requested to telephone the undersigned counsel.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,

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